REMARKS

The foregoing Amendment and remarks which follow are responsive to the Office Action mailed August 29, 2001 in relation to the above-identified request for continued application.

I. Examiner's Rejections and Objections

In that Office Action, Claims 16-23 were rejected under 35 U.S.C. § 102(b) as being anticipated by Merval et al. (U.S. Patent No. 5,387,653). Additionally, Claims 16-23 were rejected under 35 U.S.C. § 102(e) as being anticipated by Perraud et al. (U.S. Patent No. 5,830,975). Furthermore, Claims 16-23 were rejected under 35 U.S.C. § 102(e) as being anticipated by Tanaka et al. (U.S. Patent No. 5,993,975). Alternatively, Claims 16-23 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Tanaka et al..

II. Applicants' response to Examiner's rejections.

The Office Action rejected Claims 16-23 based on a view that Merval et al., Perraud et al., and Tanaka et al. discloses all of the elements of the claimed invention. In response, Applicants have amended independent Claims 16 and 20 to recite an adhesive mixture curable to form an acid-impervious barrier at temperatures above 500°F. As such, Applicants respectfully submit that the cited prior art does not disclose an adhesive mixture operative to form an acid-impervious barrier at temperatures above 500°F; rather, the cited prior art discloses an adhesive mixture operative to form an acid impervious barrier at temperatures below 500°F.

Applicants will discuss the reasons that the cited prior art discloses only an adhesive

mixture that is acid-impervious only at temperatures below 500°F. In the cited prior art, as understood, it is important that the physical state of the mixture does not change to a liquid based on a view that a mixture that does change its physical state into a liquid would melt away or a mating surface would pierce the mixture so as to contact the base metal promoting corrosion. As understood, the curing temperature of the mixture taught in the cited prior art is below 260°C, i.e., **below 500**°F. As such, the mixture taught in the prior art would change its physical state to a liquid when the operating temperature rises above 500°F thereby exposing the bare metal or substrate to a corrosive environment. In other words, the mixture is operative as an acid-impervious barrier only **at temperatures below 500**°F. Since the cited prior art does not disclose, suggest, or make obvious an adhesive mixture operative to form an acid impervious barrier **at temperatures above 500**°F, the cited prior art does not anticipate base Claims 16 and 20. Hence, base Claims 16 and 20 are believed to be allowable.

Applicants will discuss the reasons that Tanaka et al. does not disclose an adhesive mixture operative to form an acid-impervious barrier at temperatures above 500°F. Tanaka et al. discloses that the coated substrate is placed in a furnace heated to 220 ± 20°C (i.e., 464°F max.) to produce a cured coated layer on a metal substrate. As understood, if a cured coated metal substrate was subjected to a temperature above 240°C(i.e., above 464°F), then the mixture would re-melt and flow off of the metal substrate exposing the metal substrate to a corrosive environment thereby not being an acid-impervious barrier. Hence, Tanaka et al. discloses a mixture, which is operative to form an acid-impervious barrier at temperatures below 240°C(i.e., below 464°F); whereas, Claims 16 and 20 claims an adhesive mixture operative to form an acid-

impervious barrier at temperatures above 500°F.

Furthermore, even if the mixture taught in Tanaka et al. was modified to make a mixture operative to form an acid-impervious barrier at temperatures above 500°F, the metal substrate would not be able to withstand these high temperatures. As such, Applicants respectfully submit that Tanaka et al. teaches away from making an adhesive mixture that is operative to form an acid-impervious barrier at temperatures above 500°F. Tanaka et al. discloses that the maximum temperature of the base metal is 260°C (i.e., 500°F)[1]; therefore, the base metal would be non-functional for its stated purpose when the operating temperature rises above its maximum temperature. As such, Tanaka et al. does not make Claims 16 and 20 obvious. Hence, Applicants respectfully submit that Claims 16 and 20 are allowable based on a view that Tanaka et al. does not disclose, suggest, or make obvious the subject matter of the claimed invention.

Applicants will discuss the reasons that Tanaka et al. does not disclose, suggest, or make obvious the claimed invention. First, the adhesive mixture taught in Tanaka et al. does not disclose, suggest, or make obvious the adhesive powder taught in the present invention. The adhesive taught in Tanaka et al. consists of two elements, namely, the polyester resin and the melamine resin together. In the present invention, the adhesive consists of one element, namely, a powder adhesive. As such, the present invention retains the function of the two element adhesive taught in Tanaka et al. with a one element powder adhesive. Hence, the claimed invention is non-obvious.

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[1] This is disclosed in Tanaka et al. stating that the "preferable curing conditions are generally 160°C-260°C. **(the maximum temperature of base metal).**" Tanaka et al., Col. 8, Lns. 7-8. (Emphasis Added).

Second, Tanaka et al. teaches away from making the presently claimed invention. As understood, the organic polymer fine particles does not make the mixture acid impervious; rather, the rust preventive pigment makes the mixture acid impervious.[2] As such, if the rust preventive agent was removed from the mixture, then the mixture would not be sufficiently acid impervious. Hence, Tanaka et al. teaches away from making the claimed invention.

Lastly, the mixture taught in Tanaka et al., as understood, is directed to a coating that is bendable. As such, it is understood that the coating in Tanaka et al. is flexible. If the coating of the present invention was flexible, then the product produced by the fixture would not conform to the required surface requirements based on a view that the coating on the fixture would flex in response to the residual stresses within the composite being formed on the fixture. This results in a part that is not acceptable to the purpose of the present invention based on a view that the part produced by the present invention does not require further processing. Hence, Claims 16 and 20 is non-obvious based on the foregoing reasons.

Additionally, Applicants respectfully submit that the dependent claims of Claim 16 and 20 contain additional novel and non-obvious subject matter. For example, newly added Claims 24 and 25 which depend upon Claims 16 and 20 further claim that the acid-impervious polymer particulate has a total surface area of 0.008 square inches for evenly dispersing the acid-impervious polymer particulate throughout the mixture when the mixture is being cured. When the mixture is heated to its cure temperature, the size of the polymer particulate allows it to evenly disperse throughout the mixture creating a smooth surface finish. It is implied that the

[2] "When the amount of the rust preventive pigment (C) used is less than 1 part by weight, the coating film formed tends to have no sufficient corrosion resistance." Tanaka et al., Col. 6, Lns. 5-8.

surface finish of the coated substrate after curing needs to be smooth based on a view that the coated surface is used to form parts into a desired shape. Tanaka et al. states that the present invention relates to a coating composition used for rough texture surface finish. In Tanaka et al., it is understood that the organic polymer fine particles do not melt out and flow out during the curing of the composition when applied.[3] As such, these particles impart a rough texture on the coating film surface. Simply put, the rough texture surface finish produced by the coating taught in Tanaka et al. is unsatisfactory for the purposes of the present invention. Hence, Claims 24 and 25 are believed to be allowable and, more generally, all of the dependent claims of Claims 16 and 20 are also believed to be allowable based on a view that the cited prior art does not disclose, suggest, or make obvious the claimed invention.

IV. Applicants' request

On the basis of the foregoing, Applicants respectfully submit that the stated rejections for Claims 16-23 have been overcome, and that Claims 16-25 which includes newly added Claims 24 and 25, are in condition for allowance. An early Notice of Allowance is therefore respectfully requested.

Attached hereto is a marked-up version of the changes made to the specification and claims by the current Amendment. The attached page is captioned "Version with markings to show changes made."

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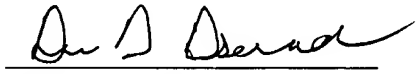
[3] Tanaka et al., Col. 5, Lns. 35-38.

Applicants acknowledge receipt of the prior art made of record and not relied upon, but considered by the Office Action to be pertinent to Applicants' disclosure. It is Applicants' belief that the cited art, either alone or in combination, does not anticipate, suggest, or make obvious the instantly claimed invention.

Respectfully submitted,

Date: 12/04/2001 By: 

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VERSION WITH MARKINGS TO SHOW CHANGES MADE

IN THE CLAIMS:

16. (Once Amended) A metal structure comprising a steel surface having deposited thereon a an adhesive mixture of an acid-impervious polymer particulate and a powder adhesive adhesively operational only upon curing and so cured after deposition of said mixture on the steel surface, the adhesive mixture operative to form an acid-impervious barrier at temperatures above 500°F.

20. (Once Amended) A metal curing fixture comprising a steel surface having deposited thereon a mixture of an acid-impervious polymer particulate and a powder adhesive adhesively operational only upon curing and so cured after deposition of said mixture on the steel surface, the adhesive mixture operative to form an acid-impervious barrier at temperatures above 500°F.

24. (New) The metal structure as claimed in Claim 16 wherein the acid-impervious polymer particulate has a total surface area of 0.008 inches for evenly dispersing the acid-impervious polymer particulate throughout the mixture when the mixture is being cured.

25. (New) The metal curing fixture as claimed in Claim 20 wherein the acid-impervious polymer particulate has a total surface area of 0.008 inches for evenly dispersing the acid-impervious polymer particulate throughout the mixture when the mixture is being cured.

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